THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 22

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JONATHAN H. FISCHER

Appeal No. 96-3442
Application No. 08/253,884[1]

ON BRIEF

Before THOMAS, JERRY SMITH and RUGGIERO, Administrative Patent Judges.

RUGGIERO, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1-6 and 8-11. Claim 7 has been allowed by the Examiner.

The claimed invention relates to a bootstrap circuit for use with low voltage power supplies and sources.

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[1] Application for patent filed June 3, 1994.

Representative claim 1 is reproduced as follows:

1. An integrated circuit comprising a bootstrap circuit including:

at least a pair of drivers and one capacitor coupled in a configuration forming a bootstrap node, each of said drivers having an input port; and

a bipolar transistor having its emitter coupled to said node and having its base coupled to the input port of one of said drivers.

The Examiner relies on the following references[2]:

Shin	4,965,470	Oct. 23, 1990
Sobue et al. (Sobue)	5,394,038 (Effectively filed Mar. 13, 1992)	Feb. 28, 1995

Claims 1-6 and 8-11 stand rejected under 35 U.S.C. § 103. The rejections of the appealed claims are set forth by the Examiner as follows:

1. Claims 1, 4, 10, and 11 are rejected under 35 U.S.C. § 103 as being unpatentable over the prior art as illustrated in Fig. 1 of the present application in view of Shin.

[2] The Examiner has additionally relied on a description of the prior art on page 3 of the specification and illustrated in Figure 1 of the drawings.

2. Claims 2, 3, 5, and 6 are rejected under 35 U.S.C. § 103 as being unpatentable over the prior art as illustrated in Fig. 1 of the present application in view of Shin and further in view of Sobue.

3. Claims 8 and 9 are rejected under 35 U.S.C. § 103 as being unpatentable over the prior art as illustrated in Fig. 1 of the present application in view of Sobue.

Rather than reiterate the arguments of Appellant and the Examiner, reference is made to the Brief and Answer for the respective details thereof.

OPINION

We have carefully considered the subject matter on appeal, the rejections advanced by the Examiner and the evidence
of obviousness relied upon by the Examiner as support for the rejections. We have, likewise, reviewed and taken into consideration, in reaching our decision, the Appellant’s arguments set forth in the Brief along with the Examiner's rationale in support of the rejections and arguments in rebuttal

set forth in the Examiner's Answer. It is our view, after consideration of the record before us, that the collective evidence relied upon and the level of skill in the particular art would not have suggested to one of ordinary skill in the art the obviousness of the invention as set forth in claims 1-6 and 8-11. Accordingly, we reverse.

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the Examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one
having ordinary skill in the pertinent art would have been led to
modify the prior art or to combine prior art references to arrive
at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole

or knowledge generally available to one having ordinary skill in the art. Uniroyal Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the Examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1990).

1. The rejection of claims 1, 4, 10, and 11 as unpatentable over the prior art illustrated in Fig. 1 of the present application and Shin.

Appellant argues on page 4 of the Brief that the Examiner has improperly used a "hindsight" approach to combine the teachings of the prior art. Appellant contends on page 4 of the Brief

> One indication that the Examiner has improperly used this "hindsight" approach is the fact that neither the Shin patent nor the Sobue et al. patent even arguably relates to bootstrap circuits. The Examiner has not cited even a single prior art document that discloses bootstrap circuits as a basis for his rejection. Thus, the entire basis for the Examiner's rejection stems not from the Examiner's search of the prior art, but from applicant's disclosure.

The Examiner has responded (Answer, page 6) that "hindsight" has not been used since the motivation for the combination is not that Shin teaches a bootstrap circuit but rather a specific driver which could be employed for Appellant's general driver illustrated in Fig. 1 of the specification.

On this particular point we must disagree with Appellant. The prior art teaching of a bootstrap circuit is provided by the description at page 3 of Appellant's specification and further illustrated in Fig. 1 of the drawings. The fact that the secondary reference to Shin does not disclose a bootstrap circuit is not necessarily fatal to the proposed combination

of references since the basic teaching of a prior art bootstrap circuit is provided in Appellant's specification and drawings.

Appellant further contends (Brief, page 6)that there is no teaching in Shin which would lead one of ordinary skill to modify a conventional bootstrap circuit to include a bipolar transistor coupled in the manner claimed. We note that Appellant's claim 1 recites

> at least a pair of drivers and one capacitor coupled in a configuration forming a bootstrap node, each of said drivers having an input port; and
> a bipolar transistor having its emitter coupled to said node and having its base coupled to the input port of one of said drivers.

More specifically, Appellant argues (Brief, pages 7 and 8) that Shin teaches away from the claimed invention since the circuit of Shin operates to restrict supply voltage to within voltage supply rails in contrast to the bootstrapping operation of Appellant's claimed circuit. In addition, Appellant points to the fact that Shin is not in any way concerned with boosting output voltage as an indication of the lack of motivation for the proposed combination.

In response, the Examiner (Answer, page 7) argues that the validity of the proposed combination of teachings does not rest on how Shin operates in its disclosed environment but rather whether the modification of the prior art with the driver of Shin would impede the operation of such prior art. The Examiner concludes that since the role of a driver is to output high and low outputs, the use of a driver such as in Shin in the prior art bootstrap circuit illustrated in Appellant's Fig. 1 would not impede the operation of such bootstrap circuit, thereby making the combination a proper one.

We have carefully considered the arguments of Appellant and the Examiner. Although we reject Appellant's argument that the Examiner's proposed combination fails because of lack of teaching of a bootstrap circuit in the secondary Shin reference, we agree with Appellant that the disclosure of Shin is totally lacking in motivation for modification of the prior art since Shin is not concerned in any manner with boosting output voltage. The Examiner's reasoning that the circuit of Shin would not impede the operation of the prior art bootstrap circuit can not alone provide proper basis for the proposed

combination if one of ordinary skill were not motivated to make the combination in the first instance.

With respect to claims 10 and 11, the Examiner (Answer, page 4) has referenced portions of Shin involving activation and deactivation voltages in relation to the claimed method steps. However, all limitations in a claim must be considered for prior art purposes. The recited bootstrap circuity structure including the connection of the bipolar transistor to the bootstrap node affects the method steps in a manipulative sense and must be given weight. For the reasons previously discussed, the Examiner has not made a prima facie case of obviousness.

2. The rejection of claims 2, 3, 5, and 6 as being unpatentable over the prior art as illustrated in Fig. 1 of the present application in view of Shin and further in view of Sobue.

Claims 2 and 3 depend from independent claim 1 and claims 5 and 6 depend from independent claim 4 and incorporate all the limitations of claims 1 and 4 just discussed. Sobue was cited to meet the base clamping feature of the bootstrap circuit, but does not overcome the innate deficiency of the

combination of the illustrated prior art of Appellant's Fig. 1 and Shin. Therefore, we do not sustain the rejection of claims 2, 3, 5, and 6 for the reasons discussed above.

3. The rejection of claims 8 and 9 as being unpatentable over the prior art as illustrated in Fig. 1 of the present application in view of Sobue.

With respect to the Sobue patent applied by the Examiner to provide a teaching of a base clamping circuit, Appellant argues lack of motivation for modifying the prior art (Brief, page 9).

Appellant contends that the purpose of the base clamping circuit in Sobue is to avoid electrostatic destruction, a feature which is not analogous to the reverse mode transistor operation described in the present application. Appellant asserts that one of ordinary skill would not combine Sobue with the prior art since the avoidance of electrostatic destruction as described in Sobue is a totally different phenomenon than the prevention of the discharging of the bootstrap capacitor accomplished by the base clamp in the present claimed invention. Appellant further contends that

even assuming the combination is proper, such combination would not result in the invention as claimed.

The Examiner's response is to argue (Answer, pages 7 and 8) that proper motivation exists for modifying the prior art with the base clamping circuit of Sobue even though such motivation would be for a different reason, i.e. prevention of electrostatic destruction rather than inhibiting bootstrap capacitor discharge. On this particular point, we agree with the Examiner' contention that a showing of proper motivation does not require that a combination of prior art teachings be made for the same reason as Appellant to achieve the claimed invention.

We note in general terms that circuitry utilizing MOS transistors would benefit from a device which clamps excessive energy resulting from an internal breakdown condition known as "electrostatic destruction." However, we are in agreement with Appellant that, even assuming that one of ordinary skill were motivated for any reason to modify the prior art bootstrap circuit by adding a base clamping circuit such as in Sobue, the combination would not result in the invention as claimed. We note that Appellant's claim 8 recites

> at least a pair of drivers and one capacitor coupled in a configuration forming a bootstrap node, each of said drivers also having an input port;
> a transistor coupled to the bootstrap node; and
> a clamping circuit coupled to said transistor.

As can be seen, this claim requires a clamping circuit coupled to a transistor which in turn is coupled to a bootstrap node formed by a configuration of a pair of drivers and a capacitor. Aside from the general assertion that it would be obvious to add a clamping circuit to the prior art, the Examiner has not indicated how and where such clamping circuit would be coupled to the prior art bootstrap circuit to achieve the claimed invention. We are not inclined to dispense with proof by evidence when the proposition at issue is not supported by a teaching in a prior art reference, common knowledge or capable of unquestionable demonstration. Our reviewing court requires this evidence in order to establish a prima facie case. In re Knapp-Monarch Co., 296 F.2d 230, 232, 132 USPQ 6, 8 (CCPA 1961); In re Cofer, 354 F.2d 664, 668, 148 USPQ 268, 271-72 (CCPA 1966).

In summary, we have not sustained any of the Examiner's rejections of the claims on appeal. Therefore, the decision of the Examiner rejecting claims 1-6 and 8-11 is reversed.

REVERSED

JAMES D. THOMAS Administrative Patent Judge	)	
JERRY SMITH Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
JOSEPH F. RUGGIERO Administrative Patent Judge	)	

S. H. Dworetsky
AT&T Bell Laboratories
600 Mountain Avenue
P.O. Box 636
Murray Hill, NJ 07974-0636